

AB cont.

ATSV	M472	CTGGATCCCCGGGGCTTCGGTGAAGGTGGCG (SEQ ID NO:86) CACTCGAGCATCTCGGCCAGCAGGGCTTC (SEQ ID NO:87)	G3-M472	5': BamHI 3': Xhol	pET23dmyc
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Please insert the accompanying paper copy of the sequence listing, pages 1-19, at the end of the end of the application.

REMARKS

Applicants request entry of this amendment in adherence with 37 C.F.R. §§ 1.821-1.825. This amendment is accompanied by a computer disk containing the above named sequences, SEQ ID NO:1-87, in computer readable form, and a paper copy of the sequence information that has been prepared from the computer disk.

The information contained in the computer disk was prepared using the software program "PatentIn" and is identical to the paper copy. This amendment contains no new matter.

Attached hereto is a marked-up version of the changes made in the specification by the amendment. The attached pages are entitled "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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PA 3215027 v1

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend Table 1, beginning on page 34, line 22, as follows:

Table I: Cloning of Human kinesins

Human kinesin	Published Seq: Accession #s & Publication Ref.	Primers for cDNA cloning: 5' primer <u>(SEQ ID NO)</u> 3' primer <u>(SEQ ID NO)</u>	Nucleo-tides Included	cDNA Source
Chromo-kinesin	AF071592 1165722(GSDB – partial)	RACE AP1 primer (Clontech) CCAAACAGGAAACAGTATCCAAGGCAACC <u>(SEQ ID NO:1)</u>	<1-193	Marathon-Ready HeLa (Clontech)
		TGCCCATCTCGTGAGAAAGC <u>(SEQ ID NO:2)</u> GCTTGACGGAGAGCATGCTG <u>(SEQ ID NO:3)</u>	76-1178	HeLa (Our prep)
		ATTGATTACCCAGTTATCGG <u>(SEQ ID NO:4)</u> TGATGACTCCAACTTCACTG <u>(SEQ ID NO:5)</u>	1032-3326	HeLa (Our prep)
		GCCGAATAACATCAAGCAATGGTAAC <u>(SEQ ID NO:6)</u> TCTGGGTATCCTTAGCAGCAAATG <u>(SEQ ID NO:7)</u>	2-2088	Breast tumor (Invitrogen)
MKLP1	X67155 Nislow, et al. 1992	AGCCATGTTGTCAGCGAGAGCTAAC <u>(SEQ ID NO:8)</u> AGGGTCTCTGGCTCTCAGTTAGG <u>(SEQ ID NO:9)</u>	73-2078	human placenta (Invitrogen)
KSP	U37426	CCTTGATTTTGGCGGGGACCGTC <u>(SEQ ID NO:10)</u> AAAGGTTGATCTGGCTCGCAGAGG <u>(SEQ ID NO:11)</u>	66-3259	breast tumor (Invitrogen)
CENP-E	Z15005 Yen, et al. 1992			
MCAK	U63743 Kim, et al. 1997	GCGTTCTCTCCTGCTGACTCTC <u>(SEQ ID NO:12)</u> AGAGGGCTGGGTGTCAAACCAAACAG <u>(SEQ ID NO:13)</u>	22-2274	breast tumor (Invitrogen)

Kid	AB017430	GTCGCTGTCGGCTAAGCAAG (<u>SEQ ID NO:14</u>) CTTTGCCCTGTGACTGTGC (<u>SEQ ID NO:15</u>) CTGGATCCCAGCCGCGGGCGGCTCGACG CAG (<u>SEQ ID NO:16</u>) CTCTAGAGAGCAGCTGTCCATGCCCG (<u>SEQ ID NO:17</u>)	101-1596	breast tumor (Invitrogen)
HSET	D14678 (<i>partial</i>)	GGGCTTGGTGCAAGAGCTTC (<u>SEQ ID NO:18</u>) CACCCCTCACCCGATACTAGAC (<u>SEQ ID NO:19</u>)	213-1624	HeLa (our prep)
ATSV	X90840	GGGCTCCCCTACTGCGAGG (<u>SEQ ID NO:20</u>) CTCCTCCTCGTTCACCTCCG (<u>SEQ ID NO:21</u>)	21-2311	WERI (our prep)

Please amend the paragraph beginning on page 35, line 18, as follows:

pET23d (Novagen 69748-3) encodes a T7 epitope tag 5' of the polylinker cloning site and a 6-His tag 3' of the polylinker cloning site. We constructed pET23dmyc by inserting the annealed oligonucleotides described below into the Xhol site of pET23d. This creates coding sequence for the myc epitope tag in-frame with the 6-His tag.

Annealed oligonucleotides for pET23dmyc:

sense: TCGAGGGTACCGAGCAGAAGCTGATCAGCGAGGAGGACCTGA
(SEQ ID NO:22)

antisense: TCGATCAGGTCCCTCGCTGATCAGCTCTGCTCGGTACCC
(SEQ ID NO:23)

Please amend Table 2 beginning on page 37 as follows:

Table II: Subcloning of Human kinesins into Bacterial Expression Plasmids:

Kinesin	Construct Name	5' primer (<u>SEQ ID NO</u>) 3' primer (<u>SEQ ID NO</u>)	Residues Included	Cloning sites	Host Vector
Chromo-kinesin	K335	TAGCCATGGAAGAGGTGAAGGAAATTG (<u>SEQ ID NO:24</u>) CCGCTCGAGTTTCTTGCTCTGTC (<u>SEQ ID NO:25</u>)	E2-K335	5': Ncol 3': Xhol	pET23dmyc

Chromo-kinesin	Q475	TAGAAGCTTGGAAAGAGGTGAAGGG <u>(SEQ ID NO:26)</u> TAGAAGCTCTGGTAATCAATTG <u>(SEQ ID NO:27)</u>	E2-Q475	5' Hind III 3': HindIII	pET23dmyc
Chromo-kinesin	D679	TAGAAGCTTGGAAAGAGGTGAAGGG <u>(SEQ ID NO:28)</u> TAGAAGCTTGTCTCGTTTTAAC <u>(SEQ ID NO:29)</u>	E2-D679	5' Hind III 3': HindIII	pET23dmyc
Chromo-kinesin	FL1	TAGAAGCTTGGAAAGAGGTGAAGGG <u>(SEQ ID NO:30)</u> TAGAAGCTTGTGGGCCTCTTCG <u>(SEQ ID NO:31)</u>	E2-H1229	5' Hind III 3': HindIII	pET23dmyc
Kin2	P166	TACGGATCCCAAATTATGAAATTATG <u>(SEQ ID NO:32)</u> TACAAGCTTAGCAGTTGGATCTACAGTC <u>(SEQ ID NO:33)</u>	P166-A532	5': BamHI 3': HindIII	pET23dmyc
Kin2	H195	TACGGATCCATAGGATATGTGTGTG <u>(SEQ ID NO:34)</u> TACAAGCTTAGCAGTTGGATCTACAGTC <u>(SEQ ID NO:35)</u>	H195-A532	5': BamHI 3': HindIII	pET23dmyc
Kin2	FL2	CTCCATGGTAACATCTTAAATGAAGATAATG <u>(SEQ ID NO:36)</u> CTAAGCTTAAGGGCACGGGTCTTCGGTTG <u>(SEQ ID NO:37)</u>	M1-L679	5': Ncol 3': HindIII	pET23dmyc
MKLP1	E433	ATCCATGGCGAGAGCTAAGACACCCCGGAAACC <u>(SEQ ID NO:38)</u> ATGCGGCCGCTTGTGAGTCACCTCCGCAAATCTC <u>(SEQ ID NO:39)</u>	A4-E433	5': Ncol 3': NotI	pET23dmyc
MKLP1	R494	ATCCATGGCGAGAGCTAAGACACCCCGGAAACC <u>(SEQ ID NO:40)</u> ATGCGGCCGCCCTTGGAAAGTGTCTGCTCATCGTTG <u>(SEQ ID NO:41)</u>	A4-R494	5': Ncol 3': NotI	pET23dmyc
MKLP1	E658	ATCCATGGCGAGAGCTAAGACACCCCGGAAACC <u>(SEQ ID NO:42)</u> ATGCGGCCGCTTCAGTAACAATAGCCTTCAGTTG <u>(SEQ ID NO:43)</u>	A4-E658	5': Ncol 3': NotI	pET23dmyc
KSP	L360	ATCCATGGCGTGCCAGCAAATTGCTCTGCG <u>(SEQ ID NO:44)</u> ATCTCGAGCAATATGTTCTTGCTCTATGAGC <u>(SEQ ID NO:45)</u>	M1-L360	5': Ncol 3': Xhol	pET23dmyc
KSP	K491	ATCCATGGCGTGCCAGCAAATTGCTCTGCG <u>(SEQ ID NO:46)</u> ATCTCGAGTTCTCCTCAGTACTTCAAAGC <u>(SEQ ID NO:47)</u>	M1-K491	5': Ncol 3': Xhol	pET23dmyc
KSP	S553	ATCCATGGCGTGCCAGCAAATTGCTCTGCG <u>(SEQ ID NO:48)</u> ATCTCGAGGCTGCCATCCTAATTAAATTCTCC <u>(SEQ ID NO:49)</u>	M1-S553	5': Ncol 3': Xhol	pET23dmyc
CENP-E	M329	CTGGATCCCGGGAGGAAGGAGCCGTGGCC <u>(SEQ ID NO:50)</u> CACTCGAGCATATTTAGCAGTACTGGC <u>(SEQ ID NO:51)</u>	A2-M329	5': BamHI 3': Xhol	pET23d

CENP-E	T340	CTGGATCCCGGGAGGAAGGAGCCGTGGCC <u>(SEQ ID NO:52)</u> CACTCGAGAGTTGATAACCTCATTAACATAAGGAG <u>(SEQ ID NO:53)</u>	A2-T340	5': BamHI 3': Xhol	pET23d
CENP-E	S405	CTGGATCCCGGGAGGAAGGAGCCGTGGCC <u>(SEQ ID NO:54)</u> CACTCGAGAGAAGAGGTACCCAGCATCCG <u>(SEQ ID NO:55)</u>	A2-S405	5': BamHI 3': Xhol	pET23d
CENP-E	V465	CTGGATCCCGGGAGGAAGGAGCCGTGGCC <u>(SEQ ID NO:56)</u> CACTCGAGGACAGATTCAATTCTCG <u>(SEQ ID NO:57)</u>	A2-V465	5': BamHI 3': Xhol	pET23d
CENP-E	T488	CTGGATCCCGGGAGGAAGGAGCCGTGGCC <u>(SEQ ID NO:58)</u> CACTCGAGTGGCTGGATTCCATTCTATC <u>(SEQ ID NO:59)</u>	A2-T488	5': BamHI 3': Xhol	pET23d
MCAK	M1	CTGGATCCGGAGGAATCATGTCTTGTGAAG <u>(SEQ ID NO:60)</u> CACTCGAGTGGAAATCAGCGCCCCGTTAGAG <u>(SEQ ID NO:61)</u>	R189-P617	5': BamHI 3': Xhol	pET23dmyc
MCAK	M2	CTGGATCCCAAACGGGAATTGCCGAATG <u>(SEQ ID NO:62)</u> CACTCGAGTGGAAATCAGCGCCCCGTTAGAG <u>(SEQ ID NO:63)</u>	P228-P617	5': BamHI 3': Xhol	pET23dmyc
MCAK	M3	CTGGATCCACAGAACATGTGTCTGTAGG <u>(SEQ ID NO:64)</u> CACTCGAGTGGAAATCAGCGCCCCGTTAGAG <u>(SEQ ID NO:65)</u>	H257-P617	5': BamHI 3': Xhol	pET23dmyc
MCAK	M4	CTGGATCCGGAGGAATCATGTCTTGTGAAG <u>(SEQ ID NO:66)</u> CACTCGAGTGGTCCTGCTGTATGATCTC <u>(SEQ ID NO:67)</u>	R189-P660	5': BamHI 3': Xhol	pET23dmyc
MCAK	M5	CTGGATCCCAAACGGGAATTGCCGAATG <u>(SEQ ID NO:68)</u> CACTCGAGTGGTCCTGCTGTATGATCTC <u>(SEQ ID NO:69)</u>	P228-P660	5': BamHI 3': Xhol	pET23dmyc
MCAK	M6	CTGGATCCACAGAACATGTGTCTGTAGG <u>(SEQ ID NO:70)</u> CACTCGAGTGGTCCTGCTGTATGATCTC <u>(SEQ ID NO:71)</u>	H257-P660	5': BamHI 3': Xhol	pET23dmyc
MCAK	FL3	CTCCATGGACTCGTCGCTTCAGGCCGC <u>(SEQ ID NO:72)</u> CTCTCGAGCTGGGCCGTTCTGCTGCTTATTTG <u>(SEQ ID NO:73)</u>	M3-Q725	5': Ncol 3': Xhol	pET23dmyc
Kid	A2N370	CTGGATCCCAGCCGGGGCGCTCGACGCAG <u>(SEQ ID NO:74)</u> CACTCGAGATTGATCACCTCCTGGACCTG <u>(SEQ ID NO:75)</u>	A2-N370	5': BamHI 3': Xhol	pET23dmyc
Kid	A2M511	CTGGATCCCAGCCGGGGCGCTCGACGCAG <u>(SEQ ID NO:76)</u> CACTCGAGCATTGTGGGACAATGGTTCTC <u>(SEQ ID NO:77)</u>	A2-M511	5': BamHI 3': Xhol	pET23dmyc

HSET	K519	TCGGATCCTGGTCAAGAGCTTCAG <u>(SEQ ID NO:78)</u> CACTCGAGCTCCTGTTGGCCTGAGC <u>(SEQ ID NO:79)</u>	L72-K519	5': BamHI 3': Xhol	pET23dmyc
HSET	E152.2	CATGCCATGGAACTCAAGGGCAAC <u>(SEQ ID NO:80)</u> CACTCGAGCTCCTGTTGGCCTGAGC <u>(SEQ ID NO:81)</u>	E152-K519	5': Ncol 3': Xhol	pET23d
HSET	Q151.3	GGATATCCATATGCAGGAACTCAAGGGCAAC <u>(SEQ ID NO:82)</u> GCAGGATCCTCACTTCCTGTTGGCCTGAG <u>(SEQ ID NO:83)</u>	Q151-K519	5': Ndel 3': BamHI	pET15b
ATSV	Q353	CTGGATCCCCGGGGCTTCGGTGAAGGTGGCG <u>(SEQ ID NO:84)</u> CACTCGAGCTGCTGGCCCGGTCAAGCATAC <u>(SEQ ID NO:85)</u>	G3-Q353	5': BamHI 3': Xhol	pET23dmyc
ATSV	M472	CTGGATCCCCGGGGCTTCGGTGAAGGTGGCG <u>(SEQ ID NO:86)</u> CACTCGAGCATCTCGGCCAGCAGGGCTTC <u>(SEQ ID NO:87)</u>	G3-M472	5': BamHI 3': Xhol	pET23dmyc

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